

Executive Summary

Introduction

This document is both a Montana State draft environmental impact statement (EIS) and a federal environmental assessment (EA) and has been prepared for the United States portion of the proposed Montana Alberta Tie Ltd. (MATL) transmission line. Because of the similarities of their environmental reviews, and to reduce the burden and expense of preparing separate documents, Montana and the U.S. Department of Energy have cooperated in the preparation of this single environmental document. The project considered in this document is an international 240/230-kilovolt (kV) alternating current merchant (private) transmission line that would originate at an existing NorthWestern Energy (NWE) 230-kV switch yard near Rainbow Dam at Great Falls, Montana, and extend north to a new substation to be constructed northeast of Lethbridge, Alberta, crossing the U.S.-Canada international border north of Cut Bank, Montana. Approximately 130 miles of the 203-mile transmission line are proposed to be constructed in the U.S. The line would be owned by MATL, a private Canadian corporation owned by Tonbridge Power. The proposed line would be part of the Western Interconnection (western grid), and a phase shifting transformer would be installed at the substation near Lethbridge to control the direction of power flows on the line.

MATL has submitted an application for a certificate of compliance (certificate) to the Montana Department of Environmental Quality (DEQ) under the Montana Major Facility Siting Act (MFSA)(75-20-101, et seq., Montana Code Annotated [MCA]). This application addresses the portion of the transmission line between Great Falls and the border between the U.S. and Canada. MATL has applied to the U.S. Department of Energy (DOE) for a Presidential permit (permit) to construct, operate, maintain and connect facilities for the transmission of electric energy at the U.S.-Canada international border. **Figure ES-1** provides a map showing the location of the proposed facility and alternatives.

In response to the application for a certificate, DEQ must prepare a report and may conduct an environmental review and approve the proposed project before construction may begin. These reviews are required by the Montana Environmental Policy Act (MEPA) and MFSA. The DOE action also requires an environmental review conducted in accordance with the National Environmental Policy Act (NEPA). Further information on the regulatory requirements and responsibilities is included in Section 1.4 of the EIS.

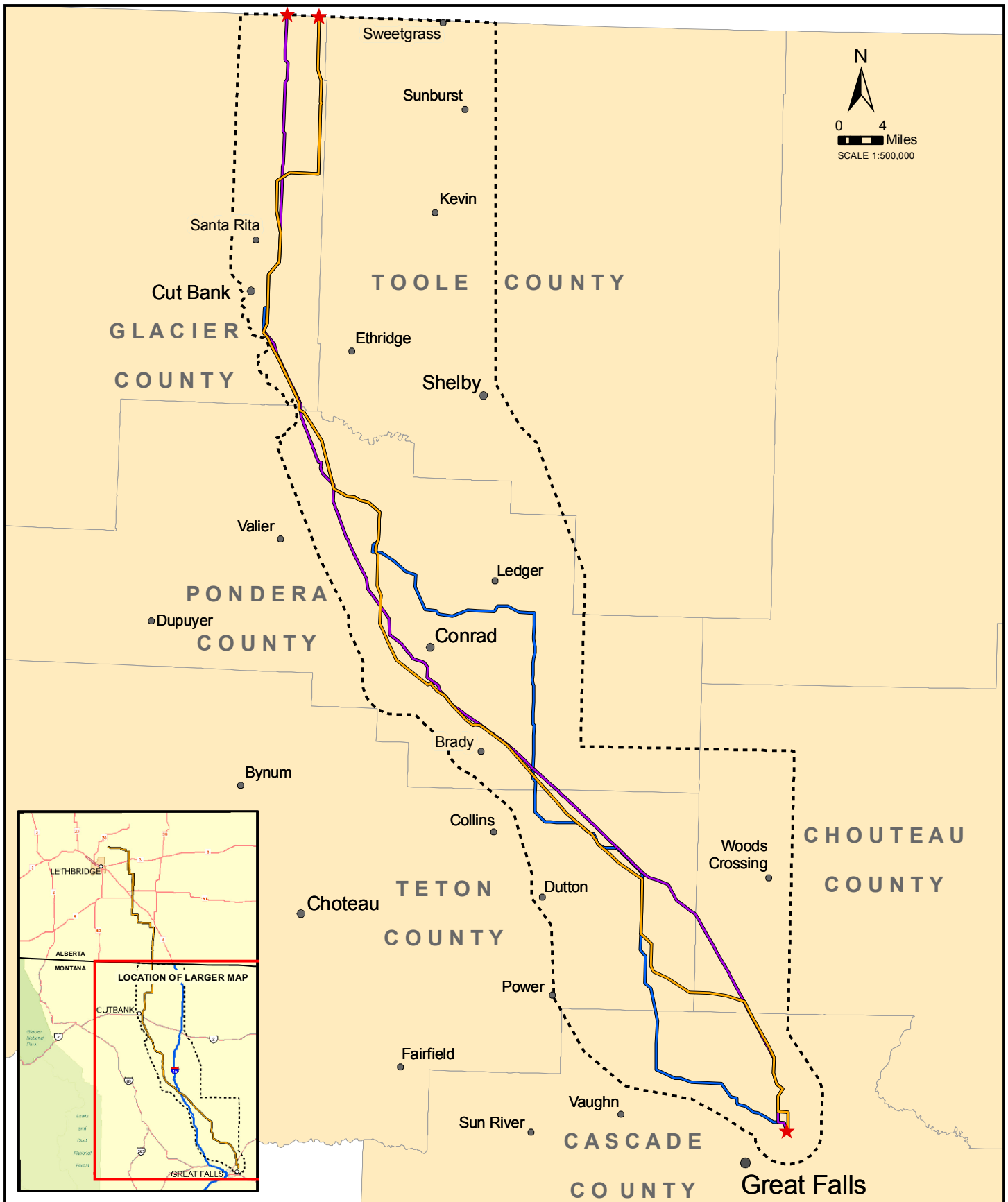


FIGURE ES-1
PROJECT STUDY AREA

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Purpose and Benefits of the Montana-Alberta Tie Transmission Line Project

This section describes the purpose and benefit of the proposed action to the State of Montana as required under MEPA and MFSA (Section 1.2.1). This section also addresses purpose and need for the federal action and purpose and benefit to the applicant (Section 1.2.2) and the need for the facility (Section 1.2.3). DEQ must make several findings, including a finding of need, before a certificate can be issued under MFSA. Under MFSA, consideration must be given to the benefits of the project to the applicant and to the state.

Purpose and Benefit to the State of Montana

The purpose of issuing a certificate of compliance and a Presidential permit for the proposed MATL transmission line is to allow MATL to connect the Montana electrical transmission grid with the Alberta electrical transmission grid (no direct connection currently exists). This region of Montana has a high potential for development of wind resources. A connection could provide access to markets for new wind generation facilities in the vicinity of the proposed transmission line and improve transmission access to markets seeking new energy resources. Expected benefits of the proposed Project are summarized below and examined in detail in Section 3.16.

Benefits to Electricity Generators and Consumers in Montana

The proposed transmission line would have the capacity to carry up to 300 MW north and 300 MW south for a total capacity of up to 600 MW. However, due to constraints on the current system where MATL would tie in at Great Falls, the full capacity of 300 MW to the south would not be realized unless additional upgrades are made. The added capacity from MATL could support a modest increase in new power generation in Montana. While larger amounts of new generation would need more transmission capacity, the construction and operation of the proposed Project would provide opportunities for development of smaller energy generation projects, such as wind energy, in Montana. If the proposed transmission line is approved, MATL will have already sold most of the total capacity of the line to potential wind farms before construction begins. Information regarding energy generation companies already contracted with MATL is provided in Section 2.6.

Additional expected benefits to Montana generators and consumers include: additional connection with markets that demand energy; additional wholesale electricity purchasing options for Montana utilities, which could result in lower rates due to an increase in supplier competition; and increased opportunities for western grid system optimization during high Montana export and low Alberta-BC export scenarios.

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Benefits to Existing Transmission Systems

A modified transmission system, including a tie line between Montana and Alberta, may also result in benefits to transmission system operators whose service areas include Montana and to utilities that provide transmission service within the state. A modified transmission system could provide more options for power routing within Montana, increase energy transactions between Montana and Alberta, and allow for easier balancing of energy surpluses and shortages within and between balancing authority areas. Because tie lines are able to connect with adjacent electric systems, different generation resources can combine to provide a level of reliability that one jurisdiction could not otherwise afford if that jurisdiction had to cover the same resources independently. The MATL line could also create another opportunity for Montana's largest privately owned transmission and distribution utility, NorthWestern Energy, to obtain regulating reserves for its transmission system control area.

Benefits as Stated by the Applicant

The MATL transmission line is a merchant line the primary purpose of which is to financially benefit the owner/operators. The MATL application for certification described the following benefits to MATL, the U.S., and Canada (MATL 2006b):

The Project would be the United States' first power transmission interconnection with Alberta and is expected to facilitate development of additional sources of generation (e.g., windfarms both in northern Montana, and southern Alberta), and improve transmission system reliability in Montana, Alberta, and on a regional basis in both the U.S. and Canada. In addition, the Project would promote increased trade in electrical energy across the international border, and provide a transmission route to balance energy surplus/shortage situations in an efficient and economic manner.

In addition, MATL asserts that system stability studies conducted under the direction of the Western Electricity Coordinating Council Peer Review Group indicate that the proposed Project would not adversely affect transmission system stability (Tonbridge Power, Inc. 2007).

Need for the Facility

The need for this line is the additional transfer capacity it would provide, if built. This line would directly connect Montana and Alberta's regional operating transmission systems, and would allow power to flow directly between these two systems where there is no current connection.

Because Montana makes more electricity than it consumes, to be economically viable, any new generation resources in Montana must offer competitive pricing and have

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adequate transmission access to compete in out-of-state markets or replace an existing supplier choosing to take higher profits by selling out of state (DEQ 2004). Either way, additional transmission capacity is not needed to serve Montana customers, but it is essential for the viability of new generation enterprises (DEQ 2004).

This line could support a modest increase of new electricity generators, such as wind, in the study area by connecting them to regional grids and thus potentially to electricity markets. The MATL transmission line is proposed to be capable of shipping up to 300 MW north and 300 MW south. The amount of new generation that would be able to be shipped south into Montana by MATL is currently unknown due to potential transmission constraints south of Great Falls, which is the southern terminus of MATL. To the extent that southerly electrical flows on MATL are constrained, this would reduce MATL's ability to meet the need for increased capacity. It also may result in more electricity flowing north from Montana into Alberta than from Alberta to Montana.

Issues Identified During Scoping

DOE issued a "Notice of Intent to Prepare an Environmental Assessment and to Conduct Public Scoping Meetings and Notice of Floodplain and Wetlands Involvement; Montana Alberta Tie, Ltd." in the *Federal Register* on November 18, 2005 (70 FR 69962). In addition, DOE mailed a copy of the notice, using Montana land ownership records, to each owner of land on the MATL-proposed corridor.

DEQ and DOE hosted four public meetings in December 2005 and June 2006 at which time the public was asked to identify issues and concerns to be addressed during the review. During each meeting, MATL and DEQ representatives presented briefings. Maps and other information were available for review, and representatives from each agency were available to discuss the project, answer questions, and receive public comments.

Meeting dates and locations are listed below:

- Conrad on Monday, December 5, 2005, at Norley Hall,
- Great Falls on Tuesday, December 6, 2005, at the Great Falls Civic Center,
- Cut Bank on Wednesday, December 7, 2005, at the Glacier County Voting Center, and
- Cut Bank on Monday, June 26, 2006, at the Cut Bank Civic Center.

Additionally, throughout the scoping process, stakeholders expressed their concerns via letters, phone calls, and emails.

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Other agencies having interest or responsibility in the project approval process include: Montana Fish, Wildlife and Parks, Montana State Historic Preservation Office (SHPO), Montana Department of Natural Resources and Conservation, U.S. Department of Agriculture Farm Services Administration, U.S. Bureau of Land Management, and U.S. Fish and Wildlife Service.

Based on comments received from participating agencies and the public, ten issues and concerns were identified. These issues are (1) impacts on farming, ranching, and other land uses, (2) impacts on protected, threatened, endangered, and sensitive animal and plant species and their critical habitats (3) impacts on floodplains and wetlands, (4) avian mortality, (5) impacts on cultural and historic resources, (6) impacts on human health and safety, (7) impacts on air, soil, and water, (8) visual impacts, (9) socioeconomic impacts, and (10) impacts from development of wind generation projects.

Alternatives Description

A complete discussion of how alternatives were developed, alternatives considered but dismissed from full analysis, and complete descriptions of the four alternatives considered for detailed analysis is provided in Chapter 2. A summary of the four alternatives is presented below. Alternatives considered but dismissed are also listed below.

Alternative 1 — No Action

Under Alternative 1, the proposed Project would not be approved or implemented. Existing electrical transmission service in north-central Montana would be maintained and operated at its current level. In addition, plans to construct new generation facilities, primarily wind, in the analysis area would likely not be realized.

Alternative 2 — Proposed Action

Alternative 2 is to construct and operate a 230-kV merchant power line between Great Falls, Montana and Lethbridge, Alberta as described in MATL's application to DEQ (MATL 2006b) and its application for a Presidential permit before DOE. The Alternative 2 proposed alignment is 129.9 miles long and extends from the 230-kV Great Falls switch yard north of Great Falls to a proposed new substation near Cut Bank, and extend north to the Montana-Canada border at the western edge of the Red Creek Oil Field. The transmission line would be built using H-frame structures.

Alternative 3 — MATL B

Alternative 3 would be 121.6 miles long and would be similar to Alternative 2 in that the width of the right of way, pole design, types of access roads, implementation, structures, conductors, markers, substations, construction, operations, maintenance, and potential environmental protection measures would be the same as those described

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for Alternative 2. The Alternative 3 alignment would be different from Alternative 2 in that it would generally parallel an existing 115-kV transmission line along the entire route from the Great Falls switch yard to a substation near Cut Bank. Alternative 3 was designed by MATL based on a single preferred location MFSA siting criterion that recommends paralleling existing utility corridors (Circular MFSA-1, section 3.1). This alternative alignment was not intended to address potential land use issues or maintenance issues.

Alternative 4 – Agency-Developed

Alternative 4 was developed by DEQ within MATL's study area to address concerns raised by the public and interested agencies during the scoping period. Issues of concern that helped shape Alternative 4 are: potential adverse impacts to farmers from diagonal crossings of farm fields using H-frame structures, limitations on private property use due to crossings on private land and disturbance of visual resources. The alignment under Alternative 4 would be 139.6 miles long and would be generally constructed along field boundaries and where diagonal crossings could impact farming practices or other private land use. Public land was used when its use would be as economically practicable as the use of nearby private land. Alternative 4 also includes additional environmental protection measures recommended but not required under Alternatives 2 and 3. The use of monopoles would be required where the line would cross cropland and Conservation Reserve Program (CRP) land. The width of the right of way, project implementation, conductors, markers, substations, types of access roads, construction, operations, and maintenance would be the same as Alternatives 2 and 3.

Alternatives Considered But Dismissed

Several alignment and construction-detail alternatives were considered but eliminated from detailed study.

- Many local realignment options
- MATL C alignment
- Building the line underground
- Unguyed, self-supporting angle and dead-end structures
- Requiring the use of helicopters to string the line
- Requiring monopole structures in all areas
- Cut Bank to Shelby alternatives
- NWE 115-kV transmission line rebuild alternative

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Affected Environment

The 1,444,790 acre Project study area contains sparsely populated semi-arid rolling hills, gentle ridges, and plateaus bisected by alluvial corridors of the Marias and Teton rivers and their tributaries. The area has low topographic relief with elevations ranging from 4,372 feet above sea level in the northwest corner of the study area to about 3,016 feet above sea level on the Missouri River in the southeast corner of the area. Winters are extremely cold with desiccating winds and snow. May and June are the wettest months; however, perennial streams and rivers are sustained primarily from moisture derived from mountain snowpack.

The bedrock geologic units are primarily glaciated Cretaceous shales and sandstones (MATL 2006b). This region includes portions of eight hydrologic subbasins in Montana, all of which contribute to the lower Missouri River Basin. The primary surface water features in the analysis area are Cut Bank Creek, the Marias River and the Dry Fork Marias River, Pondera Coulee, the Teton River, Benton Lake, Hay Lake, and the Missouri River. Isolated prairie potholes, lakes, and stock reservoirs are scattered throughout the analysis area.

The majority of the land (90 percent) is privately owned, with the remainder being owned or managed by state, federal, and local government agencies. Over 88 percent of the Project study area is considered agricultural lands, including irrigated and non-irrigated cropland and rangeland. Some dry land crops and grazing occur on state and federal lands. Management of agricultural lands includes the use of GPS guided tractors, sprayers, and combines, and irrigation equipment, and aerial and ground based spraying, mechanical plowing, seeding, fertilizing, and harvesting. These activities occur on 73 percent of the Project study area. This agricultural land base gives the landscape its characteristic and dominant patterns of linear strips of dryland cultivation and circular and rectangular shapes associated with irrigated fields. Portions of Cascade, Chouteau, Glacier, Pondera, Teton, and Toole counties are in the Project study area.

Numerous oil and gas fields are located within the northern portion of the analysis area. Pipelines between 8 and 20 inches in diameter occur within or traverse the Project study area including gathering system main lines and transmission/trunk lines. Existing electric and magnetic field (EMF) levels in the project vicinity are primarily dominated by EMF from common household appliances. Existing transmission and distribution lines also contribute to EMF levels.

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Comparison of Alternatives and Impacts

Table ES-1 summarizes potential impacts from the proposed Project and action alternatives to land use, geology, soils, safety, hazardous material management, electric and magnetic fields, water, wetlands, vegetation, wildlife, fish, special status species, air quality, noise, socioeconomics, paleontological resources, cultural resources, visual resources, and the existing transmission system.

Under Alternative 1, the no action alternative, the proposed 230-kV transmission line would not be built, and the impacts described in **Table ES-1** would not occur.